

**SUMMARY FOR FE-07-02**  
**SELECTED AND POSSIBLE CONTRIBUTING FACTORS**

**SELECTED FACTORS**

**Railroad:** Norfolk Southern Corporation

**Location:** Frankfort, Indiana

**Region:** 4

**Month:** March

**Date:** March 6, 2002

**Time:** 1:40 p.m., EST

**Data for Fatally Injured Employee(s)**

Carman

47 years old

23 years of service

Last rules training: N/A

Last safety training: March 6, 2002

Last physical: Within last six months

**Data for All Employees (Craft, Position, Activity)**

**Craft: Maintenance of Equipment**

**Positions:**

Carman 1 (fatally injured)

Carman 2

Carman 3

Yard Clerk

**Activity:** Repairing defective freight cars, specifically replacing a broken truck bolster side-bearing cage, at the time of the incident.

**EVENT**

A Carman was fatally injured when a tank car shifted, fatally crushing him against the right No. 2 wheel.

## **SUMMARY FOR FE-07-02 CONTINUED**

### **POSSIBLE CONTRIBUTING FACTORS**

#### **PCF No. 1**

A re-enactment of the incident revealed that Carman 1 was in an unsafe position between a jacked freight car and the partially removed freight car truck.

#### **PCF No. 2**

Railroad operating rules required that jacks be securely placed for this type of work. However, the blocking under the jack, on the north side of the tank car, was pressed into the ballast (stones) and soil, allowing the tank car to shift off the jacks.

#### **PCF No. 3**

Extreme temperature fluctuations from 4° F three consecutive days prior to the incident and up to 51° F at the time of the incident caused the ground to thaw from a frozen state and allowed the blocking to sink into the ballast. Subsequently, the jacks and car shifted.

**REPORT:** FE-07-2002

**RAILROAD:** Norfolk Southern Corporation (NS)

**LOCATION:** Frankfort, Indiana

**DATE & TIME:** March 6, 2002; 1:40 p.m., EST

**EVENT<sup>1</sup>:** A Carman was fatally injured when a tank car shifted, crushing him against the right No. 2 wheel.

**EMPLOYEE:**

Craft:	Maintenance of Equipment (MOE)
Activity:	Repairing a defective freight car
Occupation:	Carman
Age:	47 years
Length of Service:	23 years
Last Rules Training:	N/A
Last Safety Training:	March 6, 2002
Last Physical:	Within last six months

### **CIRCUMSTANCES PRIOR TO THE ACCIDENT**

For the purposes of identifying the Carmen involved, Carman 1, 2, and 3 will be used. Carman 1 was fatally injured.

On March 6, 2002, Carmen 1 and 2 reported for duty at approximately 6:45 a.m., at NS's South Yard in Lafayette, Indiana. Carmen 3 reported for duty at approximately 6:30 a.m. After their morning stretching exercises, the Carmen reviewed the safety rule of the day and the incident report. The Lead Carman laid out their work assignments for the day. Carman 1 was to proceed to the east yard in Lafayette, Indiana to repair a locomotive. Carmen 2 and 3 would inspect and repair freight cars in the south yard. Carman 1's next assignment was to go to Frankfort, Indiana to repair defective freight cars with Carmen 2 and 3. The three Carmen loaded two pairs of wheels on the repair truck. Carman 1 drove the repair truck to Frankfort while Carmen 2 and 3 followed in a pick-up truck. They stopped en route for lunch about 11 a.m.

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<sup>1</sup>

"Event" is defined as "occurrence that immediately precedes and directly results in the fatality." Possible contributing factors are identified in the following report and attached summary.

They arrived at Frankfort at approximately 11:40 a.m. Carman 1 proceeded to the west end of Track 14 to establish Blue Signal Protection. The other two Carmen took care of the Blue Signal Protection at the east end of Track 14. Carman 1 proceeded to repair a crossover platform on a boxcar. The two other Carmen repaired a covered hopper, and then helped Carman 1 finish repairing the box car.

The Carmen separated a tank car (GATX 1367), which carried a load of coconut oil, from the rest of the cut of cars by using the power winch on the repair truck. Once they had separated the tank car, the Carmen positioned wood blocking on the ballast on the east end of the car and placed chock blocks under the wheels on the west end. They placed hydraulic jacks on the blocks, lifted the tank car by the jacks, and removed the freight car's truck to change the truck's wheels. The car was lowered to rest on the jacks. The truck was disassembled. At this time, Carman 3 took the pick-up truck to obtain parts to repair the truck. After Carman 3 returned, Carman 2 took the pick-up truck to retrieve another part. The new truck components were applied to the truck. After reassembling the truck, the car was again lifted. As the truck was being placed under the car, Carman 1 noticed a broken truck bolster side-bearing cage on the b-end, right side of the truck. Carman 1 told Carmen 2 and 3 to stop the truck with the No. 2 wheel axle positioned under the coupler of the car. He stated that this was to protect the car if it dropped. The side-bearing cage was removed and, while in the process of replacing the bolts, Carman 1 positioned himself between the truck bolster and the No. 2 wheel axle toward the north side of the truck side. The reason was they had problems holding the bolt in the truck bolster in order to secure the side-bearing cage.

The temperature was 51° F.

### **THE ACCIDENT**

After securing the side-bearing cage, Carman 1 attempted to move from between the axle and the truck bolster. Carman 3 saw the car start to move and shouted to Carman 1, "LOOK OUT!" Before Carman 1 could move, the tank car shifted, crushing him against the right No. 2 wheel. Both Carmen called to Carman 1, but received no response. Carman 3 called the Yard Clerk on the radio and requested an ambulance and then left in the pick-up truck to guide the ambulance to the accident site. The Frankfort Fire Department EMT unit was the first to arrive on the scene. Carman 1 was pronounced dead at the scene by the Clinton County Coroner.

### **POST-ACCIDENT INVESTIGATION**

A re-enactment of the incident revealed that Carman 1 was in an unsafe position between a jacked freight car and the partially removed freight car truck.

Prior to the incident, the blocking under the jack, on the north side of the tank car, was pressed into the ballast (stones) and soil. Extreme temperature fluctuations (from 4° F on March 3 through March 5 to 40° F on the afternoon of March 6 when the incident occurred) caused the ground to thaw from a frozen state and allowed the blocking to sink into the ballast.

Subsequently, the jacks and car shifted, crushing the Carman.

Following the accident/incident, the deceased's bodily fluids were tested for drugs and alcohol. The tests were negative.

### APPLICABLE RULES

- 1206** Jacks must be securely placed. A block of wood or rubber must be inserted between the head of the jack and metal parts being jacked except when jacking rail. A proper jack handle must be used and must be removed when not in use except when jacking traction motors into position.
- 1301** When a car or other equipment with trucks is jacked and the trucks are removed, the jacked equipment must be supported by horses, trestles, or blocking before employees go under such equipment. **Exception:** Does not apply when in-floor jacking systems equipped with mechanical safety locking devices (lock bars and stop checks) are used.
- 1310** Before jacking up one end of a locomotive, car, or other rolling equipment, the wheels on the other end must be blocked. This does not apply if in-floor jacking equipment is used. Employees must block the wheels on the other end of such equipment after the lift has been made. They must remove the blocking before lowering the equipment.